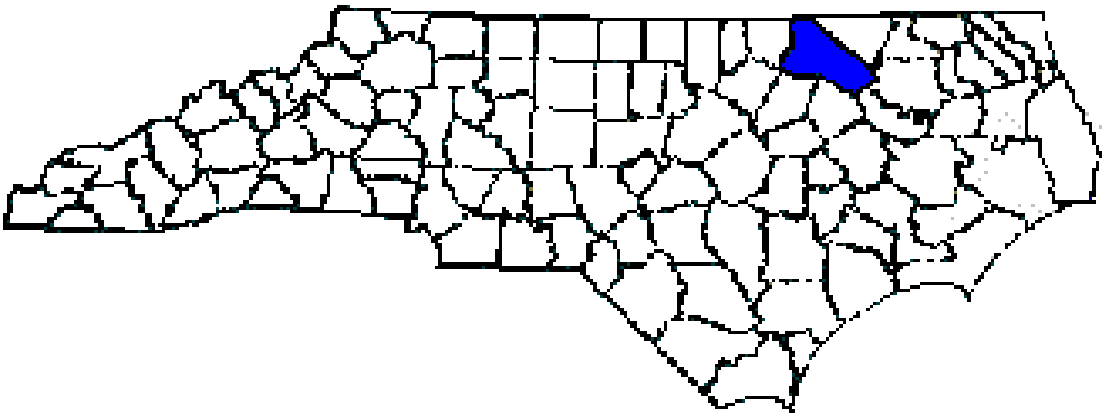
ANNUAL REPORT FOR 2009



Marsh Swamp Bridge Mitigation Site
Halifax County
TIP No. B-3853

Prepared By:
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North Carolina Department of Transportation
July 2009

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SUMMARY

The Marsh Swamp Bridge Mitigation Site is located in Halifax County. The site was planted in December 2008 and was designed as wetland mitigation for impacts associated with bridge project B-3853.

The mitigation encompasses approximately 0.48 acres total of riverine swamp wetland by removing an abandoned causeway and connecting the road back to wetland elevations of the existing adjacent wetlands. If the wetland restoration is considered successful, then 0.274 acres of the abandoned causeway restoration will be credited towards the mitigation requirements for this project. The remaining 0.206 acres may be used for a future project in the same watershed pending U.S. Army Corps of Engineers approval. Additionally, NCDOT will restore 0.304 acres of proposed temporary fill in jurisdictional wetlands needed for the onsite detour to preconstruction contours. The restoration effort involved re-vegetating the area that was restored. The area that was restored is being monitored to ensure that it re-attains jurisdictional wetland status. The restoration area was re-vegetated with bottomland hardwood species. No hydrologic monitoring is required for this project; however, vegetation monitoring is required for three years.

There was one vegetation monitoring plot established throughout the 0.78 acre site. After the first year of monitoring, the 2009 vegetation monitoring of the site revealed an average tree density of 645 trees per acre. This average is well above the minimum success criteria of 320 trees per acre.

NCDOT proposes continuing vegetation monitoring at the Marsh Swamp Bridge Mitigation Site.

1.0 INTRODUCTION

1.1 Project Description

The Marsh Swamp Bridge Mitigation Site is located at Bridge No. 82 over Marsh Swamp and approaches on NC 561 (Figure 1). The site consists of approximately 0.78 acres of mitigation for wetland impacts associated with project B-3853.

1.2 Purpose

In order for a mitigation site to be considered successful, the site must meet vegetation success criteria. This report details the vegetation monitoring in 2009 at the Marsh Swamp Bridge Mitigation Site. Hydrologic monitoring was not required for the site.

1.3 Project History

December 2008	Site planted
July 2009	Vegetation Monitoring (1 year)

2.0 VEGETATION: MARSH SWAMP BRIDGE MITIGATION SITE (YEAR 1 MONITORING)

2.1 Success Criteria

NCDOT will be responsible for monitoring the area for a period of 3 years. Site conditions will be assessed at the end of each growing season during the 3-year monitoring period. NCDOT will provide an annual monitoring report by December 1 of each year documenting success, including: photo documentation, and problems, if any, encountered during the monitoring year timeframe. If at the end of the third year of monitoring, the success criteria (survival of 320 three year old planted trees per acre and wetland hydrology present) are not met, a reevaluation of the site will be made by NCDOT and USACE to determine a course of action to meet the permit requirements for this permit. The Wilmington District, U.S. Army Corps of Engineers, Regulatory Division, must approve any deviation from this schedule.

2.2 Description of Species

The following tree species were planted in the Wetland Reforestation area:

Quercus phellos, Willow Oak

Betula nigra, River Birch

Fraxinus pennsylvanica, Green Ash

Platanus occidentalis, Sycamore

2.3 Results of Vegetation Monitoring

Plot #	Willow Oak	River Birch	Green Ash	Sycamore	Total (1 year)	Total (at planting)	Density (Trees/Acre)
1	3	15	1	18	37	39	645
Average Density (Trees/Acre)							645

Site Notes: The restoration area is re-attaining wetland jurisdictional status and the planted species are surviving. Other species noted: stinkweed*, Juncus* sp., sedge, sweetgum, black willow, fennel, goldenrod, and various grasses.

2.4 Conclusions

There was 1 vegetation monitoring plot established throughout the 0.78 acre site. The 2009 vegetation monitoring of the site revealed an average density of 645 trees per acre. This average is well above the minimum success criteria of 320 trees per acre for year one.

3.0 OVERALL CONCLUSIONS AND RECOMMENDATIONS

This report summarizes the monitoring activities that have occurred in the past year for the Marsh Swamp Bridge Mitigation Site. Monitoring activities in 2009 represent the first year of monitoring for the site. The site must demonstrate vegetation success for a minimum of three years or until the site is deemed successful.

There was one vegetation monitoring plot established throughout the 0.78 acre site. The 2009 vegetation monitoring of the site revealed an average density of 645 trees per acre. This average is well above the minimum success criteria of 320 trees per acre for year one.

NCDOT will continue vegetation monitoring at the Marsh Swamp Bridge Mitigation Site.

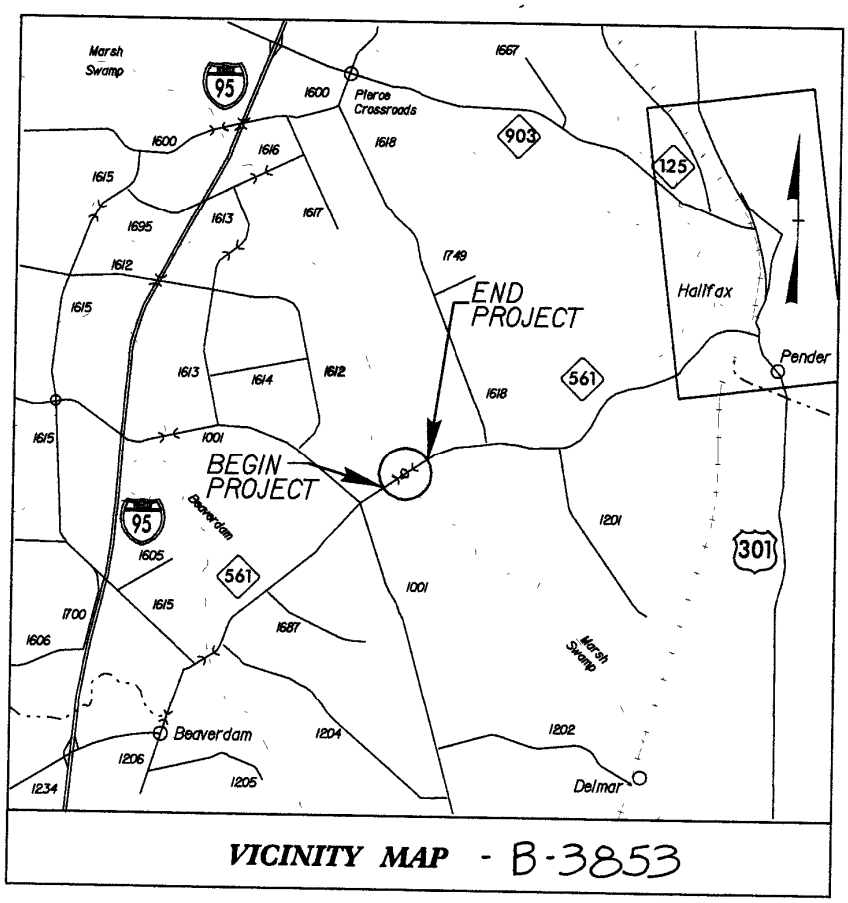

Figure 1. Site Location Map

APPENDIX A

SITE PHOTOS

Marsh Swamp Bridge Mitigation Site

Photo 1

Photo 2

Photo 3

July 2009

B-3853
MARSH SWAMP MITIGATION SITE
VEGETATION PLOT AND PHOTO LOCATIONS